AMENDMENTS TO THE CLAIMS

Please amend the claims as follows.

1. (Previously Presented) A surface plasmon resonance sensor chip, comprising:

a transparent substrate with a flat surface on a first side; and

a metal layer including a flat part of metal thin film formed on the flat surface of the substrate, and a plurality of metal particles that are arranged spaced apart from each other immediately above the flat part and that have a diameter between 20 nm and 150 nm, wherein the metal particles are made of a same material as the flat part, and

wherein the transparent substrate comprises a surface for receiving light on a second side opposite to the first side.

2.-4. (Canceled).

5. (Original) The surface plasmon resonance sensor chip according to claim 1, wherein the material of the metal layer is gold or silver.

6. (Currently Amended) A method of manufacturing a surface plasmon resonance sensor chip, the method comprising:

forming a metal thin film on a flat surface of a first side of a transparent substrate through sputtering or deposition, wherein the transparent substrate comprises a surface for receiving light on a second side opposite to the first side;

chemically modifying the metal thin film; and

immersing the chemically modified metal thin film in a liquid solution of metal particles.

7. (Canceled)

8. (Previously Presented) A surface plasmon resonance sensor, comprising:

a surface plasmon resonance sensor chip according to claim 1;

a prism arranged on the side of the chip not formed with the metal layer;

a light source for irradiating light on the chip through the prism; and

a light detector for measuring the reflectivity of the light by the metal layer.

9. (Currently Amended) A method of measurement using the surface plasmon resonance sensor chip according to claim 1, the method comprising:

contacting a sample solution to a side of the sensor chip formed with the metal layer;

irradiating light from an optical system towards the chip on a side of the chip not formed with the metal layer, the light having different frequencies or angles of incidence;

detecting a light totally reflected at the interface of the metal layer and the substrate with a light detector;

obtaining at least two resonance frequencies or resonance angles from the intensity of the totally reflected light detected with the light detector; and

obtaining ~~simultaneously measuring~~ a change in a refraction index of the sample solution in a vicinity of the metal particles and at a distance of approximately a radius of the metal particles from a surface of the metal particles based on a change in one of the two resonance

frequencies or the resonance angles and based on a change in the other resonance frequency or the resonance angle~~, and a change in the refraction index of the sample solution more distant from the detecting range of the change in the refraction index of the sample solution in the vicinity of the metal particles at a distance of about several hundred nanometers from the surface of the flat part, wherein the measurements are made using the resonance frequencies or the resonance angles~~.

10. (Previously Presented) The method of measurement according to claim 9, wherein

the sample solution contains biomolecules;

the method further comprises immobilizing acceptors on the metal layer of the sensor chip; and

the presence and the extent of interaction between the biomolecules and the acceptors are obtained based on the change in the refraction index of the sample solution in the vicinity of the metal particles and at a distance of about the radius of the metal particles from the surface of the metal particles.